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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/682,749
Filing Date: October 12, 2001
Appellant(s): TADROS ET AL.

Marina T. Larson
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 01/30/2006 appealing from the Office action mailed 7/14/2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,136,441	MACGREGOR ET AL.	10-2000
4,619,956	SUSI	10-1986

Declarations filed 12/03/2003, 12/21/2004, and 09/30/2005

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 5, 7, 9, 1 1-18, and 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacGregor et al. in view of Susi.

MacGregor discloses multi-layer plastic composites comprising a substrate, including a polycarbonate, and at least one layer of cycloaliphatic polyester, where decorative layers can be located between the substrate and surface layer (abstract). The reference indicates that the cycloaliphatic polyester resin itself may be colored or modified to be the decorative layer (col. 1 lines 39-46). Polyester resins include those, which match the applicant's claimed formula (col. 4 lines 27-45), where a polyester having cyclohexane structures as part of the R groups is preferred (col. 4, lines 46-59). MacGregor teaches the use of triazine UV absorbers and hindered amine light stabilizers (HALS), indicating a useful amount of UV absorber as 0.05-10% by weight (col. 6, lines 20-67). The substrate film and surface layers may be coextruded, or blow molded (col. 10, lines 40- 58). However, MacGregor does not specifically teach a low-volatility,

hydroxyphenyl-triazine UV absorber or teach the applicant's specified UV absorber and HALS structures.

Regarding the intermediate layer, although it is not exemplified in the reference that the intermediate layer containing a PCCD, the reference discloses the intermediate layer made of the same material as the substrate (see col. 10, ln. 46-47), whereas the substrate comprising cycloaliphatic polyester or a blend of polycarbonate and polyester (see col. 8, ln. 48-52; col. 9, ln. 56-63). Thus, the intermediate layer would also contain cycloaliphatic polyester.

Moreover, the cycloaliphatic polyester materials of the invention are shown to have improved weatherability and solvent resistance. The reference teaches that intermediate layers may be incorporated as decorative layers and also that cycloaliphatic polyester materials may be colored or modified to act as a decorative layer. It is the examiner's position that it would have been prima facie obvious to apply more than one layer of the cycloaliphatic polyester composition to amplify the weatherability and solvent resistant properties of the film. The result would be a multi-layered structure having an intermediate and upper layer both comprising cycloaliphatic polyester.

Susi discloses a method of stabilizing polymer film coatings or molded articles against light by incorporating a mixture of a tris-aryl-s-triazine UV absorber and HALS compound into a polymer binder (abstract). The UV absorber has at least one hydroxyphenyl group. Polyester is noted as a binder polymer (col. 4, lines 48-57). Susi teaches the use of oligomer substituted piperidine HALS (col. 8, line 49-col. 9, line 35), HALS compounds fitting the applicant's claimed formula of claim 5 (col. 5, lines 20-51), and HALS compounds fitting the applicant's formula of claim 6 (col. 9, line 65-col. 11, line 24) in an amount of 0.01-5% by weight based on

binder solids. The mixture of UV absorber and HALS compound provides improved gloss retention and weatherability compared to the use of individual additives (examples). Since MacGregor expressed interest in gloss retention and weatherability properties, it is the examiner's position that it would have been prima facie obvious to use an additive mixture by Susi's invention in the invention of MacGregor to further improve gloss retention and weatherability properties.

Regarding limiting the intermediate layer to contain an additive, it is noted that MacGregor does not specifically teach incorporating an additive into an intermediate layer. However, the reference does teach colored and modified intermediate layers (col. 1, lines 38-46; col. 10, lines 40-54) and also suggests the use of additives in the substrate resin for coloration purposes (col. 10 lines 35-39). It is well known in the art to use dyes or pigments, including TiO2, to color polymeric binders and form decorative layers. Therefore, it is the examiner's position that it would have been prima facie obvious to include dyes or pigments in the intermediate layer of MacGregor to provide a desired color or appearance in the decorative layer.

Regarding claim 9, Susi teaches a general tris-aryl-s-triazine formula (1), where certain species are preferred. Note that preferred compound (XIVB) is similar to the applicant's claimed formula, where Susi's compound has methyl substituents on two of the phenyl groups instead of one phenyl group. Susi's general formula (1) indicates that the substituents may be hydrogen atoms. It is the examiner's position that, given the similarity of the structures, the use of the applicant's claimed UV absorber, which is encompassed by Susi's formula (1), would provide equivalent results to the preferred compound of formula (XIVB). Therefore, it is the examiner's position that it would have been prima facie obvious to use a compound fitting the applicant's

formula in Susi's invention in the expectancy of providing equally improved gloss retention and weatherability properties.

Regarding the claimed gloss, change in gloss, and change in color properties, MacGregor teaches PCCD laminates having a gloss of 99.7 after irradiation, with a change in gloss of about 8%. However, the testing conditions may differ from those of the applicant's claimed properties. Also, MacGregor does not teach change in color in the applicant's claimed range. It is the examiner's position that the combination of MacGregor's laminate using Susi's UV stabilizer mixture would encompass the applicant's claimed specific UV additives and laminate structure. Susi teaches the combination of specific UV absorbers and HALS as especially beneficial for improving gloss and weathering properties. Since similar articles would have similar properties, it is the examiner's position that the combination of MacGregor's laminate using Susi's UV stabilizer mixture would possess the applicant's claimed gloss and weathering properties.

(10) Response to Argument

In response to the applicant's arguments that MacGregor's teaching prefers a cap layer containing polycarbonate (in addition to a cycloaliphatic polyester), it is noted that the preferred embodiment to which the applicant refers is a specifically preferred embodiment of the cap layer containing polycarbonate and PCCD. However, in the invention of MacGregor, the cap layer is indicated as containing a cycloaliphatic polyester or cycloaliphatic polyester blend with polycarbonate, and the use of a cycloaliphatic polyester is mentioned more often than the blend (see Summary of The Invention).

With respect to the applicant's arguments that MacGregor does not show any specific example illustrating the use of both a UV-stabilizer and a hindered amine light and moreover in

combination with the cycloaliphatic polyester, it is noted that MacGregor discloses the use of these additives with cycloaliphatic polyester in col. 6, lines 20-26 and col. 7, lines 1-12. Thus, the reference does teach the cap layer comprising these three chemical components.

The applicant further contends that the examiner has not explained the motivation as to why the selection of different layers and the claimed selection of materials for these layers would have been obvious. As indicated above, the use of multiple layers containing cycloaliphatic polyester would have enhanced weatherability properties. Moreover, MacGregor discloses that the substrate can be made of cycloaliphatic polyester or a blend of polycarbonate and polyester, and that the intermediate film is of the same material as the substrate (see col. 9, ln. 56-63; col. 10, ln. 46-47), illustrating that the intermediate layer would also contain a polycarbonate polyester composition. The polyester in the substrate includes cycloaliphatic polyester (see col. 8, ln. 48-52), thus the intermediate layer would also contain cycloaliphatic polyester.

In response to applicant's argument that Susi is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Susi is used to illustrate that the use of a combination of a triazine UV absorber and a piperidine HAL has been commonly taught in the prior art to stabilize a polymer film coating or molded article. Although MacGregor does teach a combination of a triazine UV absorber and HALS, the reference does not specify the type of HALS. Susi discloses that the use of a combination of a triazine compound and a piperidine compound would produce an enhanced synergistic effect in stabilizing a polymer against the

action of light, moisture, and oxygen in films, coatings, and molded articles (see col. 4, ln. 12-44). Thus, Susi is used to remedy MacGregor, and the combination of the references is proper.

In response to the applicant's arguments of unexpected results, it is noted that the results shown are still not commensurate in scope with the claims. For example, only one UV stabilizer material has been used in all of the given working examples, which the examiner believes to be a combination of a triazine compound and a light stabilizer fitting one of the applicant's formulae. However, specific compounds claimed for components (b) and (c) that are never exemplified. Examples of omitted compounds include pyrimidine compounds and light stabilizers fitting the other claimed formulae. The applicant cannot claim unexpected results for such compounds, where results have not been provided to support such a claim. It is also still the examiner's position that no unexpected results have been shown for polyesters besides PCCD, where all cycloaliphatic polyesters are claimed. The applicants argue that the PCCD material and mixture of UV stabilizers represent the classes as a whole. However, the applicant has provided no support for such a statement since no examples are given for materials other than those already shown. PCCD is only one material in a class of cycloaliphatic polyesters, the Office cannot assume unexpected results apply to a whole class of cycloaliphatic polyesters when only one specific material is shown. The applicants rely heavily on the material itself for any showing of unexpected results, yet it has not been shown that any material other than the specific PCCD material given is useful for achieving such unexpected results. The applicant has the burden of showing unexpected results that are representative of the closest prior art and commensurate in scope with the claims. Furthermore, no thicknesses, amounts of materials, or process specifications are given to show that the results are in fact dependent on the variable in question.

Regarding the applicant's arguments that the results contradict the argument that one would expect PCCD materials in a second layer to improve weatherability, it is the examiner's position that the results support the examiner's position. In fact, all examples showing blends or PC as the secondary layer have color change values worse than that of the laminate having a second PCCD layer. Thus, weatherability is improved. However, the applicant's arguments that the second layer unexpectedly provides improved gloss properties to the top surface will be considered. As stated above, the examiner still has concerns that the results do not specifically show that the second layer is the only variable in the examples and that the results are commensurate in scope with the claims.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

tt

April 03, 2006

Thao Tran

THAO T. TRAN
PATENT EXAMINER

Conferees:

James Seidleck

David Wu